DOCUMENT RESUME

ED 081 559 RC 007 270

AUTHOR	Scott, John T., Jr.
TITLE	Profile Change When Industry Moves Into an Area. Working Paper RID 73.7.
INSTITUTION	Wisconsin Univ., Madison. Center of Applied Sociology.
SPONS AGENCY	Economic Development Administration (DOC), Washington, D.C.; National Inst. of Mental Health (DHEW), Rockville, Md.
REPORT NO	MH-19689; OER-417-G-72(99-7-13248)
PUB DATE	Feb 73
NOTE	13p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Community Resources; *Economic Change; Federal Programs; *Industrialization; Labor Force; Population Trends; *Rural Areas; Rural Development; *Social Factors; Utilities

ABSTRACT

The effects of industrialization on the economic and social profile of a rural community are described in this paper. Some of the major changes when industry moves into a community are in the land use and support systems such as an increase in the demand for water, energy, and waste disposal. Other changes are in the labor force, retail sales and services, housing development, and demand for schools and other public services. The major conclusion is that much of the effort spent by a single small community in attracting new industry will benefit an area far beyond its own environs. (PS)

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PROFILE CHANGE WHEN INDUSTRY MOVES INTO A RURAL AREA*

John T. Scott, Jr.
Department of Sociology
University of Illinois
Urbana, Illinois

February, 1973

Working Paper RID 73.7

CENTER OF APPLIED SOCIOLOGY
University of Wisconsin - Madison

Cooperative Extension Programs
University of Wisconsin-Extension

*Preparation of this paper was partially supported by the College of Agriculture and Life Sciences at the University of Wisconsin, Madison; PHS Grant MH-19689 from the National Institute of Mental Health, Gene F. Summers and John P. Clark, Co-Principal Investigators; and the Office of Economic Research, Economic Development Administration, Grant OER-417-G-72 (99-7-13248), Gene F. Summers, Principal Investigator.

r-007270

PROFILE CHANGE WHEN INDUSTRY MOVES INTO A RURAL AREA

by

John T. Scott, Jr.*

Introduction

Over the past few years industry has begun to decentralize. This is occurring in several ways. As new plants are added by a manufacturing company, they are frequently located in a smaller population center than their previous plants. When old high-cost plants are abandoned and replaced, the probability is high that new replacement plants will not be located in the central core cities. From a national policy standpoint, the interest has been on the possibility of changing the pattern of population and economic activity to relieve congestion, the demand on public services, and other concomitant problems in metropolitan cities, along with a welfare concern for improving employment opportunities and public services to those living in rural areas. There are many federal programs which are consciously or otherwise affecting such changes including the grants programs of various agencies for social overhead capital in small towns.

When most people discuss industry moving to the country, they think of manufacturing industries. This viewpoint needs to be expanded to include the wholesale and service industries as well as government agencies. The greatest recent and projected expansion of employment is in these latter areas with many examples of such industries located in small towns.

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* Professor of Agricultural Economics, University of Illinois at Urbana-Champaign. Research reported here was supported in part by Illinois Agricultural Experiment Station Project No. 397 and National Institute of Mental Health PHS Research Grant MH-19689. This paper was written for presentation at the Southern Agricultural Economics Association meeting to be held in Atlanta, Georgia, February 4-7, 1973.

The 1970 census of population shows some redistribution of population growth with respect to location. Net outmigration occurred for the first time from the central core cities and there was net inmigration in the suburbs and larger outlying growth centers.

The Community Profile

What happens to the economic and social profile of a rural community or rural area when industry moves into that area?[1/] By profile of a community I refer to the kind, amount, and the ratio of various existing community resources--both private and public--and the kind, amount, and the ratio of various products produced in the community--also both private and public. Resources and products should be interpreted in the broadest sense including land, water, air, labor skills, and other resources on the one hand; corn, soybean meal, ham, television sets, education, public safety, etc., on the other.

First of all, while many resources and products of rural communities are similar from one community to another, rural communities are by no means a homogeneous lot. So that any very definitive and useful community profile for a specific community must be developed in great detail for that community alone. Also, industries vary substantially with regard to the attributes they are looking for in a community, so that an industry profile will vary widely, at least from one general standard industry classification to another. A recent extensive survey of industry leaders was conducted by

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1/ Gene F. Summers, Richard L. Hough, John T. Scott, Jr., and C. L. Folse, "Before Industrialization: A Rural Social System Base Study," College of Agriculture, University of Illinois at Urbana-Champaign, Bulletin 736, 1969.

the Commerce Department to develop industry profiles. When this information is compiled, these industry profiles should be very helpful to local chambers of commerce, development councils, planning commissions, and other local leadership groups in matching their own community profiles with industries that are most likely to locate in their community.

Recognizing the hazard of generalization, the profile of most rural communities includes lots of agricultural land and open space that is low valued relative to industrial, business, or residential value. This availability of relatively low-priced land and all the space considerations attendant with it (water availability, drainage and disposal, the air above--the whole support system) may well be the most important resource for location or redistribution of population and economic activity to rural areas.

Usually there is a pool of unemployed female labor and male labor which is often underemployed to a substantial extent (depending on the advancement and extent of commercial agriculture in the area). Rural labor has a good mechanical skill level and below average educational level, the ability to learn new skills, and still has the traditional puritan work ethic. There is little experience in assembly line work and few with any demonstrated organizational management skills. The average age of the population is higher than the national average because outmigration has involved a higher proportion of younger persons with less work opportunity and less capital--particularly as they leave high school. However, this situation can be reversed by development of sufficient economic activity and employment opportunity to hold young people in the community at this critical stage in the life cycle.

Utilities for water, sewage and solid waste disposal, electricity and gas are usually poorly developed but frequently the potential for increasing the availability of these resources is good. The resources or tax base for public services and the ensuing products--good health, good roads, good education--are usually inadequate and maldistributed since most current local services are provided by the property tax. In a rural area these taxes fall most heavily on farmland owners and home owners because there is little business or manufacturing property to tax to help provide these services. Therefore, there is usually a paucity of public funds available for any improvement in local public services.

Private production of goods and services is mainly limited to farm products and other agricultural products which may be locally processed or used as intermediate products in other production. Retail services are limited mostly to agricultural supplies and the most basic consumer services such as grocery stores and gasoline stations. Occasionally some innovative merchant has developed a specialized trade or service which draws from a much larger trading area than might be expected from the location and size of the town itself. Recreational services are likely to include no more than the spectator sports associated with the local schools, some taverns, a dairy bar-hamburger stand, and a possible bowling alley or drive-in movie.

If the town happens to be a county seat, it will have some additional elements in its profile that other rural towns of similar size would not have. The county government with its officials who have above average education and management ability are located there. Some of these persons will be professionals--such as lawyers, accountants, and law enforcement personnel.

Industrial Impact on the Profile

Site acquisition is often the first outward evidence that an industry is moving in so that the land and all its attendant factors are among the first of the resources in the community profile to be affected. Land also relates to all the locational questions in the local area, as well, such as zoning and access to railroads, highways, airports, water, sewers, drainage and other utility hookups.

In a case which we studied, the Jones and Laughlin Steel Corporation recently located a steel galvanizing mill near Hennepin, Illinois, a rural town of about 250 persons. The company acquired 6,000 acres of contiguous land bordering on the Illinois River--providing a water source, disposal, and navigation. And for additional transportation, the company obtained a commitment from the state governor to provide a ten-mile interstate connection including a river bridge to Interstate 80 which leads into the Chicago manufacturing area. Hennepin happened to be the terminus of a little used branch of the Penn-Central Railroad. At one corner of the property there already existed a large steam generating plant for electricity. This kind of site acquisition obviously changes the land use profile of the community substantially.[2/]

Whenever a site is acquired and the land use is changed from agriculture, timber, or other open space use, a number of changes occur which frequently result in problems not anticipated. A large proportion of the

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2/ John T. Scott, Jr., and Gene F. Summers, "Problems and Challenges Faced by Rural Communities with Industrial Development," proceedings of the North Central Regional Conference on Problems and Potentials of Rural Industrialization at Purdue University, W. Lafayette, Indiana, July 11-13, 1972.

site will be either under roof or paved parking lot, multiplying the amount of water runoff--taxing the ability of sewers, storm systems, and previous or natural drainage ways. This in turn often results in flooded basements, soil erosion, flooded streets, standing water, and other types of damage. Extensive damage has occurred in some of the new northwestern suburbs of Chicago where natural land drainage was poor and developers provided no drainage network. It may require large capital outlays using local tax resources to solve such land use created problems. And the handling of water runoff may be a minor problem when compared to public resources required to handle both industrial and human liquid and solid wastes, especially as the general public demands greater pollution control restrictions.

In the Jones and Laughlin development at Hennepin, the company use of water and waste disposal was many times the requirement of the whole town of Hennepin. They persuaded the local citizenry to pass municipal bonds for new water works and disposal facilities. The company bought the bonds and pays enough water rent to cover the interest, principal, and operating cost. The interest income is tax free and the utility cost is tax deductible as an ordinary business expense--a satisfactory symbiotic relationship for both Hennepin and Jones and Laughlin since no tax resources are used by Hennepin and the company can have its cake and eat it too.

The resource and product profile of the community's agricultural sector will be affected in several ways. The two main sources of impact are from land acquisition for the various nonfarm uses--industry, business, residential-and from the labor demands--the rising wage rate and lowering supply of labor. Although occasionally not recognized, many land and soil characteristics desired by land developers in the nonfarm sector are the same as those

desired by farmers for agricultural land. Developers like level land (reducing leveling and fill costs), abhor sandy soils which give poor building support, and like naturally well drained soils. So do farmers. Thus agriculture and industry find themselves in direct competition for land. While the reduction in agricultural production by local land acquisition for nonfarm use may be important in the product profile for that community, it is of little consequence in the aggregate for the whole nation.

The change in the local labor demand and supply will have a much more profound effect on the agricultural sector than land acquisition if it is a small proportion of total land. A study we recently completed indicates some of the changes which can be expected. We assumed three stages of industrialization: plant construction, beginning of plant operation, and full plant operation with accompanying multiplier effects. We assumed successively higher wage rates and lower labor availability to the farm sector in each successive stage.

As wage rates increase and the availability of labor decreases during industrialization, the larger farms which depend more on hired labor are forced to shift away from livestock production--dropping the more labor intensive land using enterprises such as dairy first and finally hogs. The higher wage rates and reduction of business volume reduces income on the large farms. Under the impact of industrialization, the income of small farmers is increased. This comes about not from any increase in return for their farming operation but because many small farmers are underemployed and now they have off-farm earning opportunities. These farmers frequently take full-time off-farm jobs and also continue their farming operation with some organizational modification. Here, too, the livestock operations are soon

dropped, but the low labor demanding crop enterprises are continued. The net result is usually an increase in income for the small family farmer. These smaller farmers spend a higher proportion of their income and spend it locally. This will tend to stimulate local business. These results imply that the family farm which uses only its own labor will likely persist longer than larger farms as industrialization of a rural area occurs. The trend toward larger farms may even be slowed or arrested. Growth of large farms will be limited by the higher wage rates, lower labor availability, and the development of newer more capital intensive technologies for agricultural production that are not now being used by these larger farmers.

One of the most important resources for industry is labor. Who these workers are, where they come from, where they live, their wage level, age, sex, and ethnic background will all be factors which may alter the community profile. The size of the industry work force compared to the size of the community will have a direct effect on altering the character of the community. The hiring and training policy of the company directly affects the character of the work force. For instance, Jones and Laughlin deliberately hired only young men recently out of high school. This early company policy has been modified, however, because of the higher rate of employee turnover at the Hennepin works relative to other plants.

When a plant that hires mostly women comes into a community, the effect on the population profile will be quite different than a plant that hires mostly men. There is a high elasticity of supply for women in the work force in most rural communities because there is not as much opportunity for women to do remunerative work outside the home. Our Hennepin survey shows women are willing to work for 57 to 87 cents per hour less than men

in similar employment, and that actual existing wage rate differentials between men and women in the same occupational categories were from one to two dollars perhour. Also, the proportion of women in the work force in the Hennepin area was significantly below the national average.

The effects and noneffects of hiring mostly women will be reflected in higher per capita consumption and savings--more and higher priced cars, more convenience foods, more household services outside the home, more laundry and drycleaning, more eating out, more and higher quality women's clothes. There will be little increase in population or new households and no reduction in average age. There will be no housing boom, no residential land development, no water or sewer extensions needed, or any other profile changes ordinarily associated with an increasing population. In this case we have development without growth in population.

Jordan's study in Arkansas documented the possibility of increasing unemployment with a factory hiring women, because when men in the households were unemployed, there was more reluctance to move out of the area to new employment opportunities as long as the women were holding jobs.[3/]

A factory hiring mostly men will have quite different effects on the community profile. The aggregate income added to the community (per new job) will be more, because men are paid more and the job categories added have a higher wage structure. However, the per capita income may not rise much because adding males normally means adding some new households. In fact, the

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3/ Max Jordan, "Rural Industrialization in the Ozarks: Case Study of a New Shirt Factory at Gassville, Arkansas," Washington, D.C.: U.S. Department of Agriculture, Economic Research Service, Agricultural Economic Report No. 123, 1957.

per capita income might conceivably fall if mostly young men were hired and there was essentially full employment in the area before the factory moved in.

Added male employment will include the following effects and noneffects: an increase in population and aggregate income, an increase in housing and furnishing, lower cost food sales, lower cost car sales, little change in restaurant business, increases in tavern and bowling alley business, and increases in demand for public services such as the common schools, water, sewers, streets, and fire and police protection. At least there is much greater potential for the kind of expansion of trade and services normally associated with growth and development of a community. These changes can be substantially diluted and spread by conscious hiring policies, however. Since Jones and Laughlin hired only recent high school graduates over a large commuting area (up to 40 miles) many of these expected effects were greatly modified or lagged in time.

Studies have shown that when a new plant goes into operation, total community employment does not increase as much as expected even with a relatively large plant compared to the size of the community. The large commuting area is one reason. But frequently a more important reason in many rural areas is the subsequent reduction of disguised unemployment. Some workers, previously employed at jobs which could go undone without really changing the total product of the community, now move up the employment ladder. Local employers are often unaware of these impending changes. They lose their better employees to the new industry and then have to replace them with the formerly disguised unemployed, because some local employers cannot or will not raise their going wage rate to compete with the

incoming industry, thus creating the trickle up effect on the employment ladder leaving some of the bottom rungs unfilled. Also, some small farmers take full-time off-farm employment. Likewise, it gives an opportunity for some of the small declining one-man retail or service businesses to gracefully fold up shop and get alternative employment. Thus a community labor market profile can change through reducing disguised unemployment and increasing upward job mobility without much visible change in total employment.

Summary

It has been our observation that the greatest change to a community profile when industry moves in is in the land use and support systems--reduction of open space and increase in demand on water, energy, and means for both liquid and solid waste disposal which required special treatment against pollution and the increase in natural water runoff. These demands can easily go beyond local tax resources to provide the required services.

Other changes in the community profile are more subtle and diffused or lagged in time. These changes affect the labor force, retail sales and services, housing development, and demand for schools and other publicly provided services. The least change in profile occurs when the community profile of resources available most closely matches the industry profile of input demands.

From these observations, it is clear that much of the effort spent by a single small community in attracting new industry, if it is successful, will benefit an area far beyond its own environs. Other than the effects on land use and support systems, the effects of increased employment and other economic activities which accompany new industry will be diffused widely throughout the benefitting area, mainly due to the open country commuting field of

up to 40 miles or even more. This is why community profile assessment and community efforts to attract industry should be pooled and coordinated among all communities in a regional effort, because the costs of an industry moving in may otherwise be born mainly by one community while the benefits will be spread over a large area.